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AN
INAUGURAL DISSERTATION
ON
DYSENTERY.

SUBMITTED TO THE PUBLIC EXAMINATION OF THE

FACULTY OF PHYSIC

UNDER THE AUTHORITY OF THE TRUSTEES OF COLUMBIA COLLEGE,
IN THE STATE OF NEW-YORK,

The Right Rev. BENJAMIN MOORE, D. D. President;

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JAMES S. STRINGHAM,

PREFACE.

SYSTEMS of Medicine, founded on the basis of experience, and embraced by characters deservedly eminent among mankind, are certainly entitled to respect, and perhaps more than respect from the young and inexperienced. To them the field of abstract speculation may appear far more interesting and diversified than the less alluring paths of calm experiment and persevering inquiry. Yet in the annals of Medicine no truth is more conspicuous than that human reason, however powerful, is inadequate to form a perfect system, unaided by time and observation. Within these few years the sciences of Medicine and Surgery have assumed a far more elevated and important rank than they heretofore held: the fetters of superstition have been broken, and the dogmas of presuming ignorance have been disclaimed; while from their ruin Genius has erected a superstructure on the firm basis of reason, experiment, and truth.

The labours of a CULLEN, a DARWIN, and a HUNTER, have developed the most profound arcana of Nature, and produced a new æra in Medicine. The history of diseases has been more fully and minutely investigated, the causes explained, and their cure rendered familiar and decisive.

To the Student of Medicine such reflections as these must frequently occur, and they should render him cautious

in advancing his opinion in opposition to those who have preceded him with such distinguished success. That much experience should characterise his first attempt as an author is not to be expected. His improvement must be the result of study alone; while, at the same time, his medical pursuits should be divested, as much as possible, of all prejudice; and in every research he should exert the faculties of reason and judgment, unbiassed by partial or favourite considerations. The various systems of authors demand his most deliberate attention: on them he should frequently reflect, and leave it to future experience and maturer judgment to elevate him to fame and to originality. To my studies having been conducted under such impressions, are the observations submitted to public examination in the following dissertation to be attributed. An ordinance of Columbia College requires of the medical graduate a thesis of his own composition: and while complying with my duty, should I not advance any observations that are new, I shall at least narrate my real and unbiassed sentiments.

AN
INAUGURAL DISSERTATION
ON
DYSENTERY.

DYSENTERY, from the general violence of various symptoms, proves a very distressing, and often fatal disease, and one that requires the utmost attention on the part of a physician. Authors, impressed with the importance of the subject, have laboured much to investigate its origin, and describe with due accuracy its progress and effects.

The following we consider as the most common and characterising symptoms of this disease.

Dysentery, in most cases, is preceded by a cold chill, succeeded by a sense of heat, some degree of weariness and lassitude, with other symptoms of pyrexia. Bowels are for the most part costive, with pain about the umbilical region: at length the desire to evacuate the fæces becomes frequent and painful, in indulging which

little is voided, while that little produces gripping and tenesmus. Stools of a thin, slimy nature, sometimes tinged with blood, either generally or partially, while at other times pure blood is voided in considerable quantity. When the stools are only streaked with blood, it is generally supposed to be poured out from the vessels of the rectum; but when they are intimately mixed with blood, it denotes it to be discharged from the vessels of the intestines, some distance up from the rectum.

The natural fæces are seldom evacuated in this disease; but when they are, they appear like small, compact masses, termed *scybalæ*; the passing of which is productive of a short remission of all the more violent symptoms.

In some instances we see small membranous films discharged by stool, and sometimes the stools appear curdled; while at other times the matter discharged appears like pure pus, and is very disagreeably fœtid. These appearances, however, I apprehend, seldom take place except in the latter stage of the disease, after high inflammation in the intestines, when mortification ensues, and a sloughing of some part of their internal coat.

Loss of appetite, with nausea and vomiting, are common occurrences in this disease.

Food, after being in the stomach for a considerable length of time, frequently is ejected,

without having undergone any alteration from the action of that organ. This, no doubt, is owing to the debilitated state of the stomach: the gastric juice is not formed of good quality, or, perhaps, there is not any secreted; consequently the food undergoes no digestion, but there acts locally on the internal coat of the stomach as an unnatural stimulus, by which vomiting is excited, and the contents of the stomach are thrown up unaltered by the digestive organs.

Patients who have been previously affected with hæmorrhoids are frequently troubled with painful tumours in the rectum; and when the disease is protracted, and the intestines become debilitated, we find them very subject to prolapsus ani.

This disease occurs more generally in summer and in autumn, and is frequently complicated with the disease then prevalent, such as intermittent and remittent fevers; and it is by many supposed that the same cause which gives rise to these fevers has an equal agency in producing Dysentery.

In the latter stage of this disease, and more immediately before death, we find the pulse small and frequent; tongue dry, furred and dark coloured; mouth and lips covered over with sordes; skin hot and dry; and the fever, which before had been synochus, becomes typhus, attended with every symptom of great debility; such as cold sweats on the extremities, involuntary stools,

swelled belly, cessation of pain, and delirium. These symptoms announce the triumph of disease over art, and the final dissolution of the patient.

Such are the more general outlines of this truly dreadful disease; but, like all others, we observe it subject to variations of symptoms.

We find that particular symptoms differ under different circumstances, and in different constitutions. In some instances it is preceded by gentle diarrhœa; while at other times the first attack will be sudden and violent, attended with griping, tenesmus, and every malignant symptom of a confirmed Dysentery, which, if not soon relieved, would terminate in the death of the patient.

In other cases, where this disease arises from diarrhœa, it will terminate in chronic Dysentery, which is sometimes known to continue for many months, in opposition to all remedies, and is only to be cured, at length, by change of climate, good nourishing diet, clean clothing, and gentle exercise.

Dysentery is also, under particular circumstances, and at particular seasons, epidemic. In garrisons and armies it is frequently epidemic, likewise in hospitals, camps, &c. where there is not proper attention paid to cleanliness and free ventilation. In low, marshy places it is also epidemic, and that more generally in autumn,

when the system is, in a greater or less degree, rendered predisposed to its attack from the debility produced by the heat of summer.

CAUSES.

THESE we shall enumerate under two heads, viz. the *predisposing* and the *exciting* causes.

Predisposition is defined, by the late ingenious Dr. Brown, to be that state of body not sufficiently disordered to produce actual disease, but, by verging toward it, renders a person more susceptible to the operation of the exciting causes.

The causes which predispose to the attack of Dysentery are such as tend to debilitate the system generally, but more immediately those that operate by directly debilitating the stomach and intestines. These are numerous and diversified; but as it is not our intention to be very particular, we shall be content by mentioning only a few of the more obvious ones. And,

First, We shall notice the operation of the mind in rendering the body predisposed to this disease.

There are many states of the mind which may fit the body for the operation of the exciting causes; such as grief, fear, anger, &c. These

frequently, from their debilitating effects, become the disponent cause of Dysentery. That these states of the mind produce indigestion, sickness at stomach, and, occasionally, even vomiting, no person will deny; and as such we shall consider them a very common predisponent cause of this disease.

Summer heat, when excessive and of long continuance, weakens the powers of the system; and hence it is with propriety classed among the predisponent causes of this disease. And by experience it is proved, that, after long continued heat, Dysentery prevails with greater violence; and that no season is more liable to its ravages than autumn.

Too great quantity of food taken into the stomach necessarily debilitates that organ, and renders it more susceptible to the operation of the exciting cause.

But of all the causes yet enumerated, may not a diminished secretion of bile, or the total want of it in the intestines, have the greatest agency in rendering the intestinal canal, and the system generally, predisposed to the attack of this disease? Hence, from this powerful cause we readily trace many of the more violent symptoms of Dysentery, which otherwise would remain obscure, if not totally inexplicable. Well formed bile, and in due quantity, is universally acknowledged necessary to the complete formation of

chyle, as well as to keep up the free and regular peristaltic motion of the intestines, both of which are very deficient in this disease.

Bile, when not secreted in due quantity and of good quality, necessarily gives rise to impaired digestion; and the consequence attendant upon it is an interruption in the peristaltic motion of the intestines. The food taken into the stomach under such circumstances is not formed into chyle, but undergoes fermentation, and septic acid is generated, which, acting on the stomach as an unnatural stimulus, causes heart-burn, pain, anxiety, nausea, and vomiting. It also very frequently produces abrasion, and even ulceration, in the intestines. Hence we find tenesmus excited, and mucous and bloody discharges to take place; and under these circumstances, the lacteals usually destined to convey chyle for the nourishment of the body, absorb the putrid contents of the bowels, which are thus taken into the circulating mass of blood, and are afterwards thrown off in form of perspiration, urine, &c. And thus I think we may readily account for that fetor usual in the excretions of patients labouring under Dysentery.

EXCITING CAUSES.

In persons already predisposed to this disease, various may be the exciting causes. Any irritat-

ing substances applied to the stomach and intestines may induce Dysentery; and hence we frequently see instances of this disease being induced from repeated drastic purges, and likewise from acrid injections, when thrown up the rectum under the above circumstances.

Food remaining in the stomach undigested, and there acting as an extraneous substance; produces irritation and inflammation; and hence we often see it the forerunner of this disease.

Impure air has been frequently observed to produce this disease, when the system has been previously disposed to its attack; and thus we see it so common an epidemic in armies, that have been worn down by the fatigue they necessarily experience. Soldiers in this state, pent up in camps, where there is not proper attention paid to cleanliness and free ventilation, do always, in a greater or less degree, become the victims of this disease. We also see it epidemic in hospitals, where there are a number of patients crowded together, and where, from neglect, the foul air is allowed to collect, until at length it becomes highly charged with noxious vapours; which are afterwards applied to the stomach and intestines, there exciting Dysentery.

Cold and moisture, variously combined, prove, perhaps, the most powerful exciting causes to this disease: hence we so commonly find it a prevailing epidemic in low marshy places. Cold and

moisture, when applied to the body under certain circumstances, give a sudden check to perspiration; and the perspirable matter, instead of being thrown out by the surface of the body, as usual, is repelled upon the more internal parts; whereby the intestines become affected, and their vessels distended with this fluid, which excites them to morbid action; and, from the high degree of excitement produced in them; they soon run on to a correspondent state of debility, causing that great degree of irritability commonly observed in the latter stage of this disease.

METHOD OF CURE.

IN the cure of diseases it is very proper, and even necessary, that we have a knowledge of the nature and operation of the causes producing them, as by this we are often enabled to prescribe with greater accuracy, and more probable success to the patient. Every physician; no doubt, must, from a want of this knowledge of disease, have been more or less frequently embarrassed; when, under different circumstances, he would have found it simple, and the indications of cure easy and familiar.

Having stated the symptoms of the disease;

and the causes producing it, we shall next endeavour to point out some of the indications of cure, which, in the first stage of the disease, are to be kept in view.

1st. To cleanse the stomach and intestines from any acrid or offensive matter that may be generated in them.

2d. To diminish the febrile action, and promote regular and healthy secretions.

3d. To remove the great irritability of the intestines, and give tone to the system.

Previous to treating of the medicines intended to answer our indications of cure, it may be proper to make some general observations on the use of blood-letting. At the commencement of this disease, blood-letting, in the greater number of instances, may be performed with advantage; and when there is a full strong pulse, with a general inflammatory diathesis, it ought seldom if ever to be omitted. From the idea many practitioners entertain of the nature of this disease, and from their total rejection of the use of the lancet in their method of cure, I am well persuaded that many patients have fallen sacrifices to this malady, which, by a free and timely bleeding, might have been cured; and even, in some instances, in the early part of the disease, though the pulse is small, and the patient complains of much pain in the abdomen, the loss of a few ounces of blood has often proved

to be of the utmost service. Bleeding, in such cases, is not only useful in relieving the congested vessels of the part affected, but, from its general relaxing effect upon the system, renders it more susceptible to the operation of medicines; and hence we have a greater prospect of recovery. The medicines best calculated to fulfil our first indication are emetics and purgatives, which we shall now consider.

Tartar-emetic is a remedy much celebrated in the cure of this disease; and, when administered in the first stage of it, as an emetic, proves serviceable.

Tartar-emetic, unless carefully prepared, contains, in a greater or less degree, some small particles which do not easily dissolve: these, getting into the stomach and intestines, often prove a source of much irritation, and the medicine, instead of relieving the symptoms for which it was given, tends rather to aggravate and increase them; for which reason the powdered ipecacuanha is to be preferred.

Ipecacuanha is a remedy well calculated to excite full vomiting, and, from the mildness of its operation, ought generally to be preferred. Emetics, in the early stage of this disease, are not only useful, by unloading the stomach, but their effect in producing perspiration proves no less beneficial.

After the few observations we have made on

the use of emetics, it is proper we should say something about the choice and efficacy of cathartics in this disease.

In Dysentery it is of the utmost consequence to keep the bowels open and free from any acrid matter that might have collected; and in doing this it is of no less importance that we make use of those purgatives which are least stimulant, and as such we mention castor-oil and the different neutral salts; such as Glauber's salt, Rochelle salt, and phosphate of soda.

Castor-oil is a remedy much used in this disease, and, from the mildness of its operation, is one that may be employed with success.

Neutral salts, in this disease, should be taken in small and repeated doses, until free and regular stools are procured. By administering the salts in divided doses, they operate more easily, and procure more regular and copious discharges; and, during the operation, our patient should take plentifully of barley-water, or thin gruel, which will tend to aid the effects of the salts, as well as to dilute and wash away any offensive matter that may be remaining.

Carbonate of soda is a remedy much recommended in the cure of this disease, and, no doubt, is a useful remedy, inasmuch as it will neutralize any acid that may be present in the alimentary canal. It is also said to form a kind of mucus, which will sheathe the stomach and intestines,

and by this means prove useful. Indeed, in many cases, such have been the good effects of this remedy, as to induce some late authors to consider it as the only one that can be relied on in the cure of Dysentery. But when we consider the nature of this disease, as well as the causes inducing it, we will readily see that soda, although it is a remedy calculated to give temporary relief, will not produce a radical cure; and he who trusts solely to its effects in the cure of Dysentery, must either be mistaken in the disease itself, or unacquainted with the remedy he prescribes.

Glysters in this disease have been much recommended; but they appear to be a doubtful remedy, useful only in the latter stage, after the bowels have been freely opened by the cathartics above-mentioned, and where there is great irritability of the parts: mucilaginous substances, thrown up the rectum in the form of injection, may then prove useful, by shielding the parts, and defending them from any acrid substances.

Our second indication of cure, which we are next to consider, is to moderate the febrile action, and promote the natural and healthy secretions.

The fever attendant upon this disease is, in most cases, at its commencement, inflammatory,

and generally requires the antiphlogistic treatment.

The remedies recommended in the first indication are well calculated to lessen the vascular action, and diminish the heat of the system. But as these remedies are not of themselves sufficient to remove the febrile symptoms, we find it necessary to administer medicines which shall keep up a free and regular discharge from the skin; and perhaps there is no medicine which proves more serviceable in this disease than ipecacuanha, given in small and repeated doses. When exhibited in this manner, it proves a very certain and powerful sudorific, and by this means diminishes the determination to the intestines. Hence its good effects in this disease are to be attributed to its power of exciting perspiration, and not to its purgative quality, as many have contended.

From the great tendency of the fever accompanying Dysentery to assume the form of typhus, we should be careful not to continue depletion too long, and to guard against this type of fever as much as possible, by due attention to ventilation and cleanliness. The patient's apartment should be well ventilated, his bed-clothes and linen often changed, and his body occasionally washed with tepid water. By these means any offensive matter that may have adhered to

the surface of the body will be removed, and the skin will be rendered free and perspirable.

In the course of this disease, where there is much debility, and the danger of the fever becoming typhus is great, it is necessary to administer tonics, such as bark, wine, and nourishing diet. From the irritability of the stomach and intestines, the bark in substance is inadmissible; but when given either in the form of decoction or infusion, it may, in the greater number of instances, be administered with success; though even in these forms it will in some cases increase the pain and frequency of the stools, but by adding a few drops of laudanum to each dose of the decoction or infusion, we diminish the irritability of the intestines, and prevent these unpleasant occurrences.

Wine may be given in any form that is most agreeable to the patient: in general, however, the best mode of exhibiting it is either with spice or in form of whey. The diet should principally be composed of such materials as are easy of digestion, and contain much nutriment; and, as such, sago and rich animal broths are to be preferred.

The secretions which are most materially interrupted in this disease, are supposed to be those of perspiration and of bile.

It is well known that, in proportion as one

secretion is checked, some one or all of the others are increased. This is very observable in complaints of the bowels. In many cases of Dysentery, such are the effects of suppressed perspiration in increasing the discharges from the bowels and the violence of the general symptoms, as to induce some physicians to consider it as the sole cause of Dysentery.

Determining to the surface in this disease is a very great mean of removing the fever and lessening the flow to the intestines. For this purpose, and with a view of assisting the other remedies, the patient's apartment should be kept pleasantly warm; his body should be covered with flannels, and he should be allowed the free use of warm diluent drinks. In many cases, after perspiration has been freely kept up, and the bowels emptied, the fever, with pain in the abdomen, still continues. In such cases fomentations and blisters are indicated. Blisters in this disease are by many considered as doubtful remedies; but this opinion has principally originated from their having been applied too late, when the system had been previously worn out by a protracted flux. For promoting the secretion of bile, calomel, when combined with a sufficient quantity of opium to prevent its passing off by stool, proves one of the most certain and effectual remedies; and hence we

find it so common a prescription in the cure of Dysentery. Calomel, when combined with opium, acts as a very pleasant stimulus to the system; and, from its particular effects upon the glands, proves serviceable in the cure of this disease, by exciting the liver to a healthful action; while the opium prevents that state of irritability which the calomel by itself would produce in the intestines.

We shall now consider our third and last indication, which is to diminish the irritability of the intestines, and give tone to the system.

In this disease, where the remedies before mentioned have been duly persisted in, and slimy stools, mixed with blood, still continue, with pain and tenesmus, the discharges are kept up from debility and relaxation of the parts.

The remedies calculated to give relief in such cases are tonics, mixed with opium, and the free use of diluents.

Astringents, from their common and indiscriminate use, have in many cases proved injurious, by increasing the pain and violence of the various symptoms, and ought seldom to be used, except where the bowels are free from all corroding and offensive matter, and where the stools are unattended with pain. In such cases they sometimes, when combined with tonics, prove useful.

Injections, like astringents, have, in many instances, done harm, from the want of proper attention in regulating the quantity used, as well as from not attending to the effects they produce. Injections, when administered in this stage of the disease, with a view of allaying the irritation, should be in small quantity, so as to be retained; as, in cases where they are not retained, they increase the irritation already excited, and, consequently, ought to be discontinued. The injections used in this disease are commonly of the mucilaginous kind, such as gum tragacanth, gum arabic, and starch. These, dissolved in water, form a mucilage well calculated to sheathe the intestines and relieve the irritation. In some cases of Dysentery, where there was great irritability and soreness of the intestines, injections, composed of about one gill of cold water, with the addition of a small quantity of laudanum, as the case required, and often repeated, have had a most happy effect in allaying irritability, and diminishing the frequency of the stools. I am induced to believe that, in the latter stage of the disease, where the irritation is great, were we to give our injections cool, we would meet with much better success. In some cases of this kind, where the anus was completely excoriated, and the intestines in that high state of sensibility which rendered injections in-

admissible, camphor and Castile soap were administered in small and repeated doses, which soon produced a remission of all the more violent symptoms; the stools became less frequent, of a more natural colour, and attended with less pain than before.

With respect to tonics in this disease, the bark, columbo-root, and quassia wood, are in most common use. These, with the addition of the more diffusible stimuli, such as wine, brandy and opium, together with a clear and temperate atmosphere, will, in the greater number of instances, be found sufficient to relieve the patient from this disease, and restore him to health.

THE END.

